A RECLASSIFICATION OF THE TRIBE OBRIINI OF LECONTE (COLEOPTERA, CERAMBYCIDÆ)

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The genera treated below were grouped together by LeConte (1873) under the tribal name Obriini. The same arrangement was maintained by LeConte and Horn (1883) and Leng (1886). Recent workers have usually divided the genera into two widely separated tribes and in some cases this has resulted in the placing of very closely related genera in different groups. In the writer's opinion the complex relationships of these genera can best be expressed by the recognition of several tribes as follows:

Key to Tribes

1. Elytra entire, neither abbreviated nor attenuated 2
   Elytra either greatly abbreviated or attenuated 4
2. Anterior coxal cavities closed posteriorly; mesosternum with intercoxal process parallel-sided; pronotum with sides angulate or tuberculate; second segment of antennæ much less than one-half as long as third; abdomen of female with first sternite as long as remaining segments together, sternites 2–5 greatly modified; ultimate segment of palpi cylindrical 3
   Anterior coxal cavities open posteriorly; mesosternum with intercoxal process triangular; pronotum with sides rounded; second segment of antennæ one-half as long as third; abdomen of female with first segment shorter than remaining together, sternites 2–5 unmodified; ultimate segment of palpi dilated ..... Eumichthini
3. Anterior coxæ conical, exserted, nearly contiguous, cavities not angulated externally; intermediate coxal cavities not open to epimera; episterna of metathorax divided by a longitudinal furrow; pronotum without dorsal tubercles ..... Obriini
   Anterior coxæ globular, separated, cavities angulated externally; intermediate coxal cavities open to epimera; episterna of metathorax without a longitudinal furrow; pronotum with dorsal tubercles. Hyboderini
4. Anterior coxal cavities open posteriorly; elytra less than one-half as long as abdomen, apices rounded or truncate, never attenuated or subulate; intercoxal process of mesosternum narrow, triangular, truncate behind; antennæ longer than the body in the male; posterior wings without a post-cubital vein ..... Molorchini
   Anterior coxal cavities closed posteriorly; elytra more than one-half as

long as abdomen, apices attenuated, subulate; intercoxal process of mesosternum broad, flat, emarginate behind; antennæ shorter than the body in both sexes; posterior wings with a single postcubital vein.

Stenopterini

Tribe **Eumichthini** Linsley, new tribe

Head short; eyes finely granulated, deeply emarginate; antennæ with second segment elongate, about one-half as long as third segment; palpi short, last segment triangularly dilated; ligula membranous. Pronotum rounded at sides, without lateral tubercles, dorsal callosities, if present, feeble; anterior coxæ globular, cavities angulate externally, open posteriorly; intermediate coxal cavities open to epimera, intercoxal process triangular; posterior wings with a single post-cubital vein; legs moderate in length, femora clavate, tibial spurs short. Abdomen of female with first sternite shorter than the following segments together, sternites two to five unmodified.

This tribe is necessary for two genera which, in the absence of females, were placed in the Obriini by LeConte and Horn. In the Aurivillius (1912) and Leng (1920) catalogues one of the genera, *Eumichthus,* is listed in the Obriini, the other, *Poecilobrium,* in the Molorchini. They appear to me to be equally out of place in either tribe. From the Obriini they differ in the shape and structure of the anterior coxæ and their cavities, the form of the intercoxal process of the mesosternum, the elongated second segment of the antennæ, the dilated palpi, and the entire, unmodified abdomen of the female. From the Molorchini they may be distinguished by the entire elytra, less prominent and more globular anterior coxæ, elongate second segment of the antennæ, laterally rounded pronotum, distinct stridulatory area of the metanotum, and dilated palpi.

Two genera occur in North America. They may be separated as follows:

Third segment of antennæ shorter than fourth; last segment of palpi narrowly triangular; first two segments of anterior tarsi tumid in male; integument non-metallic ..... *Eumichthus*

Third segment of antennæ longer than fourth; last segment of palpi broadly triangular; first two segments of anterior tarsi slender in both sexes; integument metallic ..... *Poecilobrium*

Genus Eumichthus LeConte

Eumichthus LeConte, 1873, Smithson. Misc. Coll., XI, **264**: 190, **265**: 305; LeConte and Horn, 1883, Smithson. Misc. Coll., XXVI, **507**: 291; Leng, 1886, Entom. Amer., **2**: 27.

Eumichtus, Aurivillius, 1912, Coleopt. Catal., **31**: 138.

Integument dull. Head with front declivous; antennæ slightly longer than the body in the male, third segment not longer than fourth segment; antennal tubercles scarcely elevated, intervening area convex; clypeus with a small impression on each side at base; palpi with last segment narrowly triangular. Pronotum without any dorsal callosities; elytra maculate; legs moderately short, femora very strongly clubbed, anterior tarsi of male with first two segments swollen, of female slender.

Genotype: *Eumichthus œdipus* LeConte (by single reference).

The type and only known species of this genus occurs on the Pacific coast of North America. It bears a strong superficial resemblance to the unrelated *Phymatodes decussatus* (LeConte).

Genus Pœcilobrium Horn

Pœcilobrium Horn, 1883, Smithson. Misc. Coll. XXVI, **507**: 291; Horn, 1883, Trans. Am. Ent. Soc., **10**: xi; Leng, 1886, Entom. Amer., **2**: 27.

Callimus, LeConte, 1873, Smithson. Misc. Coll., XI, **265**: 305.

Integument shining, metallic. Head with front subvertical; antennæ shorter than the body in both sexes, third segment longer than fourth segment; antennal tubercles slightly elevated, intervening area feebly concave; clypeus with a large impression on each side at base; palpi with last segment broadly triangular. Pronotum with feeble dorsal callosities; elytra concolorous; legs short, femora moderately strongly clubbed; anterior tarsi with first two segments slender in both sexes.

Genotype: *Callimus chalybeus* LeConte (by single reference).

This monotypic genus is based on a small, brilliant, metallic-blue species which occurs along the Pacific coast of North America.

Tribe Obriini Thomson

C. G. Thomson, 1859, Skand. Coleopt., **1**: 150, *Obriina.*
C. G. Thomson, 1866, Skand. Coleopt., **8**: 40, *Obriina.*
Lacordaire, 1869, Genera Coleopt., **8**: 360, *Obrionides.*
Pascoe, 1869, Trans. Ent. Soc. Lond., **1869**: 550.
LeConte, 1873, Smithson. Misc. Coll., XI, **265**: 305, *Obria.*

LeConte and Horn, 1883, Smithson. Misc. Coll., XXVI, **507**: 290, *Obria.*

Leng, 1886, Entom. Amer., **2**: 27.

Gahan, 1906, Fauna Brit. India, Coleopt., **1**: 164.

Blatchley, 1910, Coleopt. Indiana, p. 1027.

Plavilstshikov, 1932, Best.-Tab. eur. Coleopt., **102**: 62, *Obriina.*

Gressitt, 1935, Ins. Matsumurana, **9**: 146.

Gressitt, 1939, Ling. Sci. Jour., **18**: 10.

Head moderately short; eyes large, coarsely granulated, deeply emarginate; antennæ with second segment short, very much less than one-half as long as third segment; palpi unequal, last segment cylindrical; ligula membranous. Pronotum with sides protuberant or tuberculate; anterior coxæ conical, exserted, nearly contiguous, cavities rounded externally, closed posteriorly; intermediate coxal cavities not open to epimera, intercoxal process parallel-sided; metepisterna with a longitudinal furrow; wings with two post-cubital veins; legs moderately long, femora clavate and pedunculate. Abdomen with first sternite very long in both sexes; first sternite of female as long as following segments together, second sternite deeply emarginate, densely clothed with long, recurved hairs, third sternite very short, fourth and fifth sternites longer.

The outstanding characters of this tribe are the conical, exserted anterior coxæ with their cavities rounded externally and closed behind, the closed intermediate coxal cavities, and the coarsely granulate eyes. This latter character is slightly variable in *Obrium* and in the Philippine and Formosan genus *Pseudiphra,* the eyes are said to be finely facetted.

Genus Obrium Dejean

Obrium Dejean, 1821, Catal. Coleopt., ed. I, 110; Curtis, 1825, British Ent., **2**: 91; Latreille, 1829, in: Cuvier, Regne Animal, **5**: 119; Serville, 1834, Ann. Soc. Ent. France, **3**: 93; LeConte, 1850, Jour. Acad. Nat. Sci. Phila., (2), **2**: 21; C. G. Thomson, 1859, Skand. Coleopt., **1**: 151; Fairmaire, 1864, Genera Coleopt. Eur., **4**: 179; J. Thomson, 1864, Systema Ceramb., 440; C. G. Thomson, 1886, Skand. Coleopt. **8**: 41; LeConte, 1873, Smithson. Misc. Coll., XI, **265**: 306; LeConte and Horn,

1883, Smithson. Misc. Coll., XXII, 507: 291; Leng, 1886, Ent. Amer., 2: 27; Gahan, 1906, Fauna Brit. India, Coleopt., 1: 165; Blatchley, 1910, Coleopt. Indiana, p. 1027; Reitter, 1912, Fauna Germ. Käfer, 4: 29; Planet, 1924, Encycl. Ent., A, 2: 137; Portevin, 1927, Encycl. Ent. 2 (suppl.): 22; Scheerpeltz, 1930, Tierw. Mitteleur. Käfer, 5: (2): 209; Matushita, 1933, Jour. Fac. Agr., Hokkaido Univ., 34: 305; Gressitt, 1935, Ins. Matsumurana, 9: 145.

Head with front sloping anteriorly; antennæ usually at least one-third longer than the body in male, barely longer than body in female, segments three and four subequal in length, basal segments without long, apical hairs; clypeus with a deep, arcuate impression above; palpi short. Pronotum longer than broad, constricted near base, narrowly so before apex; elytra parallel-sided or slightly widened posteriorly, apex broadly rounded; legs elongate, first segment of posterior tarsi as long as following two together.

Genotype: *Cerambyx cantharinum* Linnaeus (Curtis designation, 1825).

This genus reaches its greatest development in America but is well represented in the Old World. *Phyton* Newman cannot be separated on the basis of the characters used in the literature, but it is possible that a careful study, in the light of the neotropical fauna, may reveal other characters of generic or subgeneric importance.

Tribe **Hyboderini** Linsley, new tribe

Head moderately short; eyes finely granulated; antennæ with second segment short, much less than one-half as long as third segment; palpi unequal, last segment cylindrical; ligula membranous. Pronotum with sides and disk tuberculate; anterior coxæ globular, separated, cavities angulated externally, open behind; intermediate coxal cavities open to epimera, intercoxal process parallel-sided; metepisterna without a longitudinal furrow; wings with a single post-cubital vein (two in *Megobrium*); legs moderately long, clavate. Abdomen with first sternite elongate in both sexes; first sternite of female as long as following segments together, second sternite deeply emarginate, densely hairy, third sternite very short, fourth and fifth sternites longer.

This tribe is related to the Obriini with which it agrees in the structure of the female abdomen. It differs markedly, however, in the finely granulate eyes, globular anterior coxæ with

their cavities widely angulated externally, open intermediate coxal cavities, etc. Recent workers have placed the genera in the Molorchini, a group from which they differ in the entire elytra, the modified abdomen of the female, the parallel-sided mesosternal process, and the presence of at least one post-cubital vein in the wing. The North American genera differ as follows:

1. Pubescence sparse, depressed hairs few, flying hairs numerous; punctation coarse 2
– Pubescence short, dense, appressed, flying hairs absent; punctation fine. *Hybodera*
2. Intermediate coxæ separated by at least their own diameters; metepisterna broad, parallel-sided; elytral punctures coarse, distinct throughout, elytral apices dehiscent, inner angle acute; posterior tibiæ arcuate. *Lampropterus*
– Intermediate coxæ separated by much less than their own diameters; metepisterna attenuated apically; elytral punctures becoming obsolete over apical one-third, apices separately rounded; posterior tibiæ straight... 3
3. Anterior coxæ distinctly separated; intercoxal process of mesosternum less than twice as wide as that of prosternum; antennæ of male distinctly shorter than body ..... *Pseudopilema*
– Anterior coxæ narrowly separated; intercoxal process of mesosternum several times as wide as that of prosternum; antennæ of male distinctly longer than body ..... *Megobrium*

Genus Hybodera LeConte

Hybodera LeConte, 1873, Smithson. Misc. Coll., XI, **264**: 191, **265**: 306; LeConte and Horn, 1883, Smithson. Misc. Coll., XXVI, **507**: 291; Leng, 1886, Entom. Amer., **2**: 27.

Pubescence short, dense, appressed, without an intermixture of flying hairs; punctation fine. Head with front short, declivous; vertex canaliculate; basal suture of clypeus deeply impressed; eyes deeply emarginate; antennæ longer than the body in the male, shorter than body in female; palpi short, last segment slightly oval. Pronotum a little longer than broad, strongly constricted anteriorly, less so posteriorly, sides obtusely angulate, disk quadrituberculate; prosternum distinctly separating coxæ; intercoxal process of mesosternum broad, truncate; metepisterna attenuated apically; elytra somewhat flattened, parallel-sided, apex rounded; legs with femora strongly clavate, posterior tibiæ straight; first segment of posterior tarsi longer than following two together.

Genotype: *Hybodera tuberculata* LeConte (by single reference).

Only two species are known in this remarkable genus. Both are confined to the Pacific coast of North America.

Genus Lampropterus Mulsant

Lampropterus Mulsant, 1863, Coleopt. France, Longie., Ed. 2, **214**.

Callimus Mulsant, 1846, Coleopt. France, 4, Append; Thomson, 1860, Class Ceramb., p. 160; Thomson, 1864, Systema Ceramb., p. 412; Lacordaire, 1869, Genera Coleopt., **8**: 489; LeConte and Horn, 1883, Smithson. Misc. Coll., XXVI, **507**: 291; Leng. 1886, Entom. Amer., **2**: 27, 29; Casey, 1912, Mem. Coleopt., **3**: 310; Reitter, 1912, Faun. Germ., Käfer, **4**: 28, Planet, 1924, Encycl. Ent., A, **2**: 133; Portevin, 1927, Encycl. Ent., **2** (suppl.): 22; Scheerpeltz, 1930, Tierw. Mitteleur., Käfer, **5** (2): 209.

Pilema LeConte, 1873, Smithson. Misc. Coll. XI, **264**; 191, **265**: 306.

Callimellum Strand, 1928, Ent. Nachr. Bl., **2**: 2, Plavilstshikov, 1932, Best.-Tab. eur. Coleopt., **102**: 81, 100.

Pubescence sparse, flying hairs numerous, depressed hairs few; punctation coarse. Head short, front declivous, vertex canaliculate; clypeus deeply impressed at base; eyes deeply emarginate; antennæ shorter than the body in both sexes; palpi slender, last segment cylindrical. Pronotum about as wide as long, sides obtusely angulate, disk tuberculate; prosternum very narrowly separating coxæ; intercoxal process of mesosternum at least as broad as coxæ, truncate; metepisterna broad, not greatly attenuated apically; elytral punctation coarse, distinct throughout, apices dehiscent, inner angle acute; legs slender, femora moderately clavate; posterior tibiæ curved, first segment of posterior tarsi about as long as following two together.

Genotype: *Necydalis femorata* Germar.

Lampropterus occurs throughout the Palearctic Region but in North America is represented by two species on the Pacific coast.

Genus **Pseudopilema** Linsley, new genus

Pubescence sparse, consisting mostly of flying hairs; punctation coarse. Head short; front declivous, vertex canaliculate; last segment slightly oval.

Pronotum about as wide as long, constricted at base and apex, sides obtusely angulate, disk tuberculate; anterior coxæ distinctly separated by prosternum; intercoxal process of mesosternum less than twice as wide as that of prosternum, much narrower than width of coxæ; metepisterna attenuated apically; elytra coarsely punctured at base, the punctures becoming obsolete beyond middle, apices separately rounded; legs slender, femora moderately clavate, posterior tibiæ straight.

Genotype: *Callimus hoppingi* Van Dyke.

This new genus is proposed for a species which differs from *Lampropterus* in having the anterior and intermediate coxal cavities narrowly separated, the metepisterna attenuated posteriorly, the elytral punctures becoming obsolete over the apical one-third, and the posterior tibiæ straight.

Genus Megobrium LeConte

Megobrium LeConte, 1873, Smithson. Misc. Coll., XI, **264**: 192, **265**: 306; LeConte and Horn, 1883, Smithson. Misc. Coll., XXVI, **507**: 291; Leng, 1886, Entom. Amer., **2**: 27.

Pubescence sparse, flying hairs numerous, depressed hairs few; punctation coarse. Head with front short, subvertical; vertex distinctly concave between antennal bases; eyes large, moderately emarginate; antennæ longer than the body in the male; palpi short, last segment slightly oval, truncate at apex. Pronotum longer than wide, broadly, equally constricted at base and apex, lateral tubercles large, dorsal tubercles small but distinct; prosternum narrowly separating coxæ; intercoxal process of mesosternum several times as wide as that of prosternum; metepisterna attenuated apically; elytral punctation becoming obsolete beyond middle, apices separately rounded, legs slender; femora not strongly clavate, posterior tibiæ straight, first segment of posterior tarsi a little longer than following two together.

Genotype: *Megobrium edwardsi* LeConte (by single reference).

In this genus there are two post-cubital veins in the wing as in the true Obriini. The remaining characters, however, are those of the Hyboderini. A single species is known, confined to California.

Tribe Molorchini Thomson

C. G. Thomson, 1866, Skand. Coleopt., **8**: 43, *Molorchina.*

Lacordaire, 1869, Genera Coleopt., **8**: 482, *Molorchides.*

Gahan, 1906, Fauna Brit. India, Coleopt., **1**: 169.

Plavilstshikov, 1932, Best.-Tab. eur. Coleopt., **102**: 79, *Molorchina.*

Matushita, 1933, Jour. Fac. Agr., Hokkaido Univ., **34**: 221.

Gressitt, 1939, Ling. Sci. Jour., **18**: 10.

Head short; eyes finely granulated; antennæ with second segment small, much less than one-half as long as third segment; palpi short, subequal, last segment not dilated; ligula membranous. Pronotum with sides rounded, scarcely tuberculate; anterior coxæ globose, cavities angulate externally, open posteriorly; intermediate coxal cavities open to epimera, intercoxal process narrow, triangular, truncate behind; mesonotum without a well-defined stridulatory area; elytra short, less than one-half as long as abdomen, apices rounded or truncate; wings without post-cubital veins; legs moderately long, femora clavate. Abdomen with sternites unequal, gradually diminishing in length, not abnormally modified in female.

The tribe Molorchini differs from the Stenopterini, with which it has been combined by recent workers, by having abbreviated (not subulate) elytra which cover less than half of the abdomen, posteriorly open anterior coxal cavities, no mesonotal stridulatory area, a narrow intercoxal process on the mesosternum, and no post-cubital veins in the wing.

Genus Molorchus Fabricius

Molorchus Fabricius, 1792, Ent. Syst., **1**: 356; Mulsant, 1839, Coleopt. France, Longic., p. 107; J. Thomson, 1864, Systema Ceramb., p. 411; C. G. Thomson, 1866, Skand. Coleopt., **8**: 43; Lacordaire, 1869, Genera Coleopt., **8**: 486; LeConte, 1873, Smithson. Misc. Coll., XI, **265**: 307; LeConte and Horn, 1883, Smithson. Misc. Coll., XXVI, **507**: 292; Leng, 1886, Entom. Amer., **2**: 27, 30; Gahan, 1906, Fauna Brit. India, Coleopt., **1**: 169; Blatchley, 1910, Coleopt. Indiana, p. 1028; Plavilstshikov, 1932, Best.-Tab. eur. Coleopt., **102**: 81, 93.

Heliomanes Newman, 1840, Entom., **1**: 17; LeConte, 1850, Jour. Acad. Nat. Sci. Phila., (2) **2**: 21.

Glaphyra Newman, 1840, Entom., **1**: 19; LeConte, 1850, Jour. Acad. Nat. Sci. Phila., (2) **2**: 38.

Laphyra Newman, 1842, Entom., **1**: 418.

Head with front short, vertical; vertex slightly concave between antennal bases, antennæ much longer than body in male, shorter than body in female, eleventh segment appendiculate or divided in male, simple in female; eyes deeply emarginate. Pronotum at least as long as broad, constricted at base, feebly so at apex, disk roughened or calloused; prosternum with intercoxal process very narrow; elytral apices dehiscent; legs elongate, posterior pair attaining apex of abdomen in male; tarsi slender, first segment of posterior pair as long as following two together.

Genotype: *Necydalis minor* Linnaeus (Thomson designation, 1864).

Molorchus is dominant in the Holarctic region but is also represented in the Indomalaysian and Australian faunas. Four species occur in North America, one ranging from coast to coast, two confined to the Pacific slope, and one described from the West Indies.

Tribe Stenopterini LeConte

LeConte, 1863, Smithson. Misc. Coll., XI, **265**: 306, *Stenopteri.*

LeConte and Horn, 1883, Smithson. Misc. Coll., XXVI, **507**: 292, *Stenopteri.*

Blatchley, 1910, Coleopt. Indiana, p. 1028, *Stenoptini.*

Reitter, 1912, Faun. Germ., Käfer, **4**: 28, *Stenopterina.*

Scheerpeltz, 1930, Tierw. Mitteleur., Käfer, **5** (2): 209.

Head porrect; front large, oblique; antennæ with second segment small, less than one-half as long as third segment; palpi short, subequal, last segment not dilated; ligula membranous. Pronotum tuberculate at sides; anterior coxæ globose, cavities angulate externally, closed posteriorly; intermediate coxal cavities open to epimera, intercoxal process broad, flat, emarginate posteriorly; mesonotum with a large stridulatory area; elytra elongate, subulate, covering more than half of the abdomen; wings with a single post-cubital vein; legs long, femora clavate. Abdomen with sternites unequal, gradually diminishing in length, not abnormally modified in female.

A single genus, *Callimoxys,* represents this tribe in North America.

Genus Callimoxys Kraatz

Callimoxys Kraatz, 1863, Berl. Ent. Zeitschr., **7**: 105; Thomson, 1864, Systema Ceramb., p. 412; Fairmaire, 1864, Gen. Coleopt. d'Eur., **4**: 152; Lacordaire, 1869, Gen. Coleopt., **8**: 489; LeConte, 1873, Smithson. Misc. Coll., XI, **265**: 307; LeConte and Horn, 1883, Smithson. Misc. Coll., XXVI, **507**: 292; Leng, 1885, Entom. Amer., **2**: 27; Reitter, 1912, Faun. Germ. Käfer, **4**: 28; Plavilistshikov, 1932, Best.-Tab. eur. Coleopt., 102; 82, 106.

Head elongate; front short, declivous; vertex deeply impressed between antennal bases; antennæ shorter than the body in both sexes, eleven segmented; eyes deeply emarginate. Pronotum longer than broad, narrower in front, widest behind middle, sides tumid, disk tuberculate; anterior coxæ separated by prosternum; intercoxal process of mesosternum broad; elytra with apices attenuated, subulate; legs elongate, posterior pair attaining apex of abdomen in male, femora suddenly clavate, posterior tibiæ curved inwards, outer face armed with two rows of acute tubercles.

Genotype: *Stenopterus gracilis* Brullé (by single reference).

Three species comprise this genus, one in southern Europe, two in North America.